

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address:* Hardscrabble Ranch, LLC
15660 Brackett Creek Rd
Bozeman, MT 59715
2. *Type of action:* Application to Change an Existing Irrigation Water Right
43A 30158835
3. *Water source name:* Brackett Creek
4. *Location affected by project:* Sections 2 & 3, T1N, R7E, Gallatin County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
Applicant proposes to change the point of diversion and place of use of water right 43A 190637-00. Applicant proposes to change point of diversion from a headgate in Brackett Creek to a portable pump that may be moved along Brackett Creek within the S2NWSW, NESWSW, and NWSESW of Section 2, T1N, R7E, Gallatin County. Applicant proposes to add 3.6 acres to place of use in the SWNWSW and NWSWSW of Section 2, T1N, R7E, Gallatin County. Applicant proposes to retire 7.5 acres of historical irrigation in the S2NESW and N2SESW of Section 2, T1N, R7E, Gallatin County.

The DNRC shall issue a change authorization if an applicant proves the criteria in 85-2-402, MCA are met.

6. *Agencies consulted during preparation of the Environmental Assessment:*
(including agencies with overlapping jurisdiction)

Montana Department of Natural Resources and Conservation (DNRC)
Montana Department of Fish, Wildlife & Parks
Montana Department of Environmental Quality (DEQ) website
Montana Natural Heritage Program website
U.S. Department of Agriculture (USDA) Web Soil Survey
U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory website
U.S. Geological Survey (USGS)

Part II. Environmental Review

1. Environmental Impact Checklist:

<h2>PHYSICAL ENVIRONMENT</h2>

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Fourteen miles of Brackett Creek were identified by the Montana Department of Fish, Wildlife & Parks (FWP) as periodically dewatered in 2005. Periodic dewatering is a significant problem in drought or water-short years. Also, FWP holds an instream flow water reservation (water right # 43A 30017698) in Brackett Creek upstream of the project site for up to 12,242 AF and varying between 3.17 to 63.2 CFS, from Jan 1 to Feb. 28. Because the proposed place of use has been irrigated since prior to 1970s and the proposed diversion will not exceed the historical use, the proposed project is unlikely to significantly impact water quantity.

Determination: No significant impact

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Brackett Creek is not assessed for water quality by DEQ; it drains into the Shields River which then flows into the Yellowstone River near Livingston. According to Montana Department of Environmental Quality (DEQ) 2020 Final Water Quality Integrated Report, the reach of the Shields River from Cottonwood Creek to mouth of Shields River, most of which is downstream of the proposed place of use, was not assessed for agriculture, drinking water and primary contact recreation use. However, it has been identified as not fully supporting aquatic life due to alteration in stream-side vegetation cover and flow regime modification. Because the proposed project will not exceed the historical flow rate and volume, the proposed project is not expected to have any significant effect on water quality.

Determination: No significant impact.

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: The proposed change in surface water appropriation is not expected to have significant impact on groundwater in the area because the proposed use does not exceed the historical use.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

The diversion works will begin with a portable Berkley pump mounted on tractor capable of pumping out of Brackett Creek at the proposed flow rate of 429.95 GPM. Above-ground pipes will be used to deliver water to the fields. A combination of portable big gun sprinklers, 4-inch handlines and underground sprinkler system will be used to irrigate 30.1 acres on both sides of Brackett Creek. The diversion works is not expected to have significant impacts to the creek channel and riparian zone, nor create any barriers or flow modifications.

Determination: No significant impact.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”

The Montana Natural Heritage Program identifies 1 fish, 1 mammal and 13 bird species of concern around the project site (see below). None are listed by the USFWS as endangered.

Yellowstone Cutthroat Trout	Wolverine	Cassin’s Finch	Clark’s Nutcracker	Evening Grosbeak	Great Gray Owl
Brown Creeper	Veery	Golden Eagle	Black Rosy-Finch	Black-backed Woodpecker	Brewer’s Sparrow
Green-tailed Towhee	Long-billed Curlew	Pileated Woodpecker			

One plant species, a native grass Foxtail Muhly, is listed as a species of concern. Because the project site has been used for domestic, road traffic and farming purposes since prior to 1970s, the proposed change in irrigation practice is not expected to cause additional impact to local animal and plant species.

Determination: No significant impact.

Wetlands - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

The USFWS National Wetlands Inventory identifies freshwater forest/shrub wetland and freshwater emergent wetland along the reach of Brackett Creek in the project area. Proposed irrigation is to take place on 26.5 acres north of the creek, as well as 3.6 acres south of the creek. While water will be diverted directly from the creek with a pump, the pastures appear to be 5 to 10 ft in elevation above the riparian zone. The USDA soil survey designates this riparian zone as map unit 608B, Beehive-Mooseflat complex on 0 to 4 percent slopes. While Mooseflat unit contains mucky peat in the top two inches and is classified as hydric soil, Beehive unit is not rated as hydric soil.

Determination: The identified wetland has historically been accessed for domestic, irrigation and road traffic. The proposed appropriation is not expected to cause additional impact.

Ponds - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

Determination: Not applicable.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

According to the USGS, on the east slopes of the Bridger Range lie the sedimentary rocks of the upper conglomeratic and middle sandy member of the Paleocene age. Brackett Creek in the project area is underlain by the surficial deposit of alluvium of the Holocene to Upper Pleistocene age. The majority of the proposed place of use has been historically farmed for hay production. Enbar clay loam on 0 to 2 percent slopes, Bigbear loam on 8 to 15 percent slopes, and Beehive-Mooseflat complex on 0 to 4 percent slopes make up the majority of soil units in the project area, according to the USDA Web soil survey. Beehive-Mooseflat complex includes the Brackett Creek riparian zone and flood plains position, is somewhat poorly drained, with slightly decomposed plant material in 0 to 2 inches and alluvium as parent material. Enbar clay loam occurs in the flood plains position, is somewhat poorly drained, with loamy alluvium as the parent material. Bigbear loam occurs on stream terraces, is well drained, nonsaline to very slightly saline, with alluvium as the parent material.

Sprinkler irrigation is not anticipated to cause degradation of the soil quality, nor development of saline seep. The fields will be irrigated to grow a combination of pasture grass, alfalfa hay, turf grass, and natural hay. The proposed location has been farmed since prior to 1970s. The proposed project is not expected to degrade or alter soil quality and stability.

Determination: No significant impact.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

There are not federally-listed plant species of concern in the project area. Because this area has been farmed for hay production historically, the proposed appropriation will not cause additional impact to vegetation. The control of noxious weeds is the responsibility of the property owner.

Determination: No significant impact.

AIR QUALITY - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

The switch from headgate diversion to a tractor-mounted portable pump with 60 HP gas engine is expected to release some air pollutants. The maximum period of diversion is 208 days per year. It is not expected to significantly degrade air quality.

Determination: No significant impact.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands.*

Determination: NA—This project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: No other additional impacts on environmental resources were identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: There are no known local environmental plans or goals in this area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The project is located on rural private land which has been historically used for domestic, road traffic, and hay production. It will not affect the quality of recreational and wilderness activities.

Determination: No significant impact.

HUMAN HEALTH - *Assess whether the proposed project impacts human health.*

The project proposes to change the point of diversion and irrigated acreage; it will not affect human health.

Determination: No significant impact.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*

Yes ___ *No* **X** ___ *If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: There are no additional government regulatory requirements on private property rights associated with this application.

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? No significant impact
- (b) Local and state tax base and tax revenues? No significant impact
- (c) Existing land uses? No significant impact
- (d) Quantity and distribution of employment? No significant impact
- (e) Distribution and density of population and housing? No significant impact
- (f) Demands for government services? No significant impact
- (g) Industrial and commercial activity? No significant impact
- (h) Utilities? No significant impact
- (i) Transportation? No significant impact
- (j) Safety? No significant impact
- (k) Other appropriate social and economic circumstances? No significant impact

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts This application does not present possible secondary impacts on the physical environment and human population.

Cumulative Impacts This application does not present possible cumulative impacts on the physical environment and human population.

3. *Describe any mitigation/stipulation measures:* N/A

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:* An alternative analysis of the project identified a No-Action alternative to the requested appropriation. Under the No-Action alternative, the Applicant would not be able to legally change the Applicant's historical point of diversion and place of use, nor add 3.6 irrigated acres.

PART III. Conclusion

1. **Preferred Alternative:** Issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

2. **Comments and Responses:**

3. **Finding:** *Based on the significance criteria evaluated in this EA, is an EIS required?* No

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: No significant impacts have been identified, therefore an EIS is not necessary.

Name of person(s) responsible for preparation of EA:

Name: Lih-An Yang

Title: Water Resource Specialist

Date: December 6, 2023